



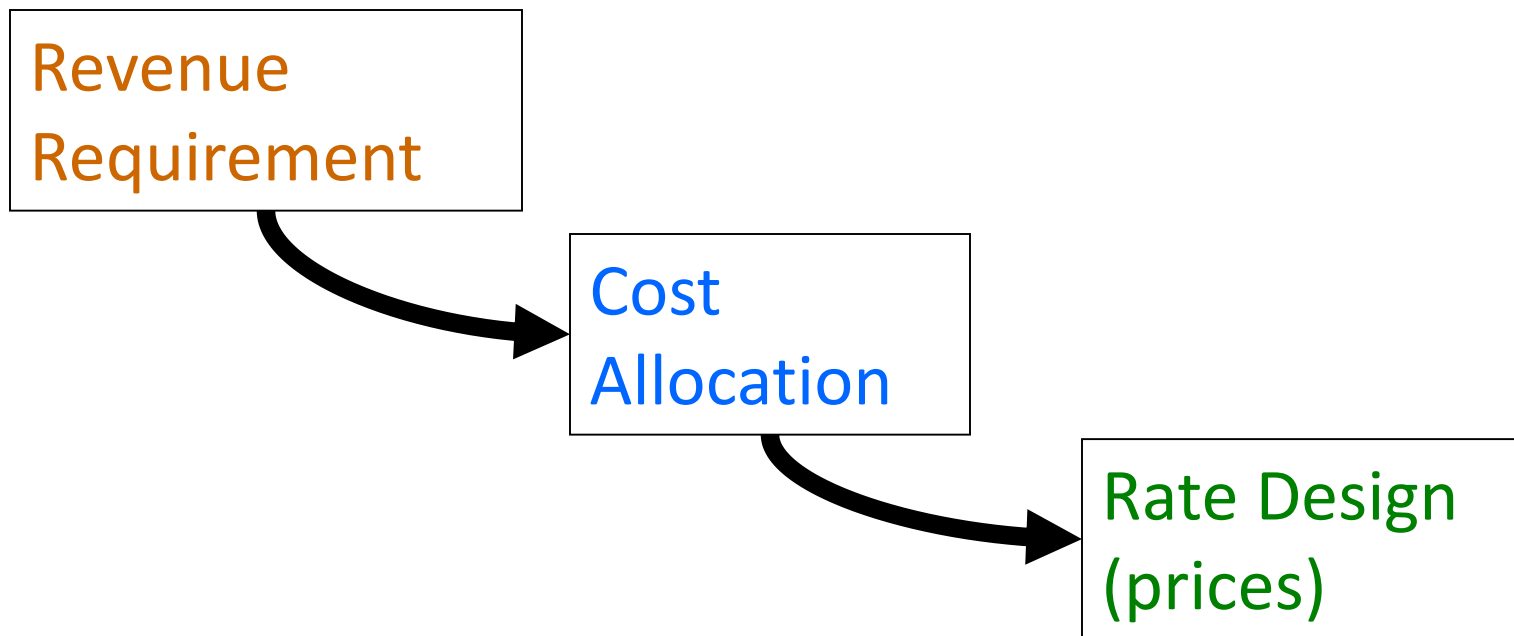
Regulatory Finance Concepts Educational Seminar

Session 2: Financing the Rate Base

Presented to the
Public Service Commission of South Carolina
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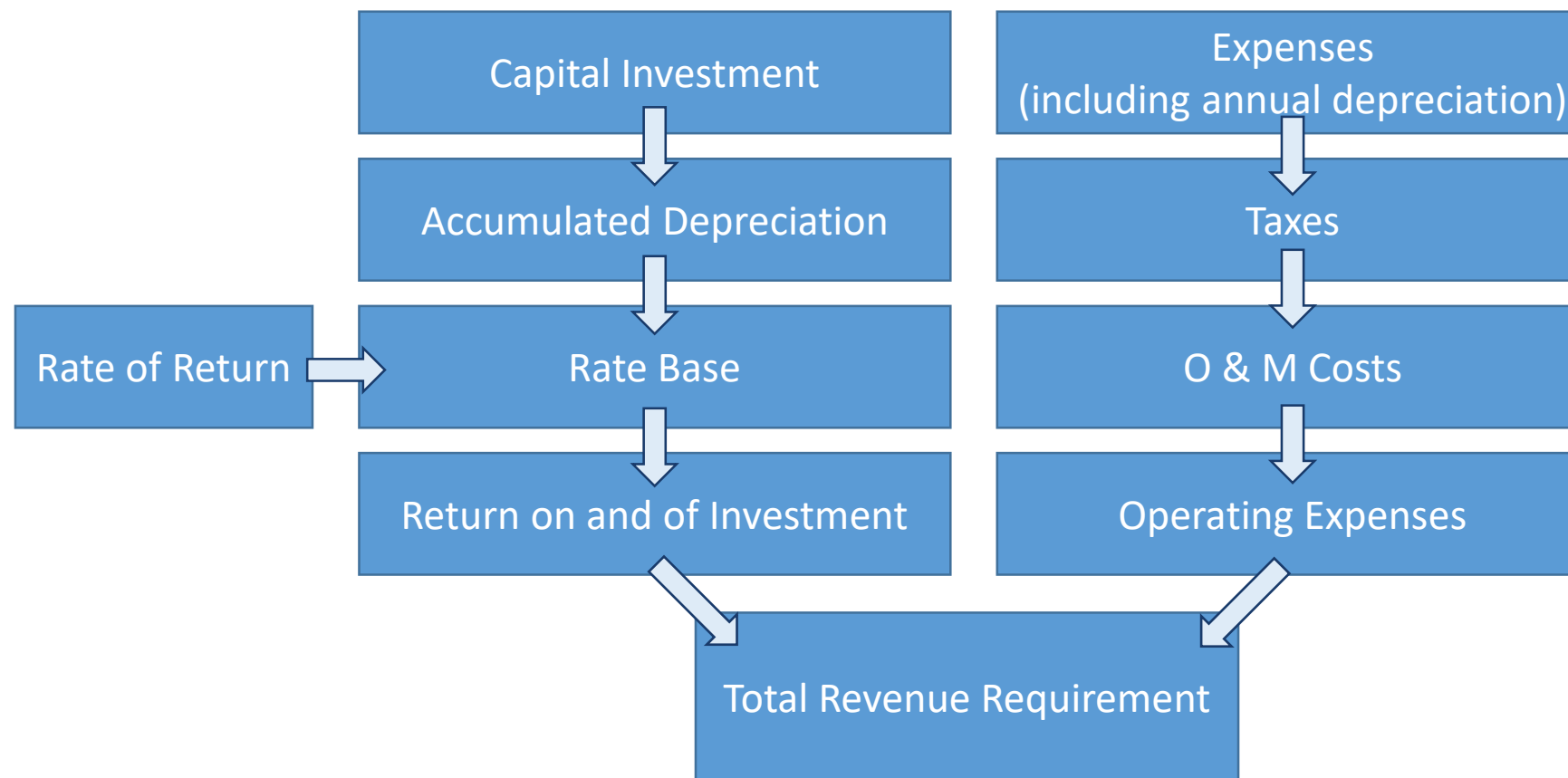
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Traditional Rate Making Process





Utility Revenue Requirement





The rate base includes...

- **Electric utilities (vertically integrated):** generation, transmission & distribution
- **Electric utilities (restructured):** transmission and distribution
- **Gas utilities:** pipes and mains
- **Water utilities:** distribution pipes, water treatment plants, meters and hydrants

The rate base can also be impacted by many infrastructure included in (or used to offset) the net value of a utility's plant and equipment



Rate Base

- The level of investment on which utilities are entitled the opportunity to earn a fair rate of return
- For rate-making purposes, the rate base measures the total value of a utility's property – plant and equipment, materials and supplies, and cash working capital
- Three issues
 - Components
 - Timing of recovery
 - Value

Depreciation

- Depreciation results from loss in service life attributable to obsolescence and wear and tear
- Allows a utility to recover through revenues costs invested in physical plant that contributes to the production of these revenues
- Annual depreciation is a function of three factors:
 - Original property cost, plus cost of removal, less estimated salvage value;
 - Estimated service life, over which the value of property is written off; and
 - Method used in distributing value over this life (e.g., straight-line)



Two ways that investments are added to rate base

- **Prudence test** – was the decision to pursue the investment reasonable given the facts that were known and knowable at the time
- **Used and useful** – an asset has to be operational to be added to rate base



Sources of Funds for Rate Base Investment

Debt: funds loaned to the utility corporation for a fixed period at a specified interest rate (Payment of debt is prioritized over equity)

Equity: funds raised by ownership through stocks (preferred or common) or equity (higher risk than debt)



Allowed vs. Earned ROR

- **Allowed return:** level used to establish rates
- **Earned return:** actual revenues minus expenses, expressed as a percentage of rate base



Tax Treatment Differs by Source of Funds

- **Debt:** the cost of debt is deducted as a business expense
- **Equity:** equity is income, and therefore is taxed
 - The revenue requirement for equity is “grossed up” by the tax rate



Capital Structure

- Proportions of debt and equity that support the company's investment
- Capital structure should reflect a company's financing costs and minimize cost to ratepayers

Weighted Average Cost of Capital

Class of Capital	Percent of Total	Cost Rate	Weighted Cost Rate
LT Debt	55%	6%	3.3%
Equity	45%	10%	4.5%

Weighted Average Cost of Capital 7.8%

Note: This simple capital structure excludes both preferred equity and short-term debt, both of which may be included in actual capital structures.

The Right to Earn a Return

- Under rate-of-return (ROR) regulation, regulators allow utilities to recover sufficient revenue to:
 - Cover the cost of borrowed funds, and
 - Have an opportunity to earn a fair or reasonable rate of return for common/preferred shareholder
- When earning a return may be inappropriate:
 - Minimizing customer costs/preserving utility financial health
 - Hurricane recovery
 - Toxic waste cleanup (e.g. ash ponds)
 - Obsolescent assets



Securitization is a form of non-rate base financing

- Creates a stand alone “Special Purpose Entity”
 - Ring-fenced and bankruptcy remote from parent utility
 - Credit evaluated separately from utility
 - Bonds are non-recourse to the utility
- Creates a new asset supported by special state legislation
 - Implemented through a special non-bi-passable wires charge
 - Charge automatically adjusted based on forecasted consumption to produce enough cash to pay debt on-time
- Substantially reduces customer costs by improving debt quality
- No return on the cost of the asset
- Secured by and payable from a dedicated component of the retail rate
 - Not more than 20% of the total bundled rate



Examples of securitization

- West Virginia 2007
 - \$459 million for Environmental upgrades to coal plant
 - \$130 Million Net Present Value Savings

- Florida 2016
 - \$1.294 billion early retirement of nuclear rate
 - Over \$600 million NPV of savings